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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,082	07/06/2006	Shugo Nishi	284933US0PCT	2333

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EXAMINER	
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ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
04/04/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/567,082	NISHI ET AL.	
	Examiner	Art Unit	
	H. T. Le	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *20 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-7 and 9-15* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. Claims 1-7 and 9-15 as amended are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The pore peak radius is now recited to be at least 15 nm. At that value, the corresponding maximum value of $\Delta Vp/\Delta \log Rp$ is at least 1000 $mm^3/nm.g$, not 250 $mm^3/nm.g$ or 500 $mm^3/nm.g$ as recited in claims 1 and 2. See the instant specification, paragraphs [0043]-[0044] and also figures 1 and 2. Thus, the maximum value of $\Delta vp/\Delta \log Rp$ of 250 or 500 $mm^3/nm.g$ as presently claimed does not correspond to the presently amended pore peak radius. The instant specification does not provide teaching or support for a value of $\Delta vp/\Delta \log Rp$ being less than 1000 $mm^3/nm.g$ when the peak pore radius is at least 15 nm. Note that if claim 1 is amended to obviate this rejection, it would render claims 2 and 3 redundant and improperly dependent on claim 1 because they fail to further limit claim 1 on which they depend.

Double Patenting

3. Claims 1-7 and 9-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending

Application No. 10/566,373 for reasons set forth in the last office action. Applicant does not argue to the merit of the rejection, thus it is assumed that Applicant agrees with the Examiner on this issue. On the technical aspect, Applicant appears to have mis-quoted and misread MPEP when citing MPEP 823 on double patenting issue and requesting that the provisional double patenting rejection be withdrawn because "the "provisional rejection is the only rejection remaining in the application".[1] This is not true in this case because the present application is filed on February 2, 2006, which is AFTER the filing date of the conflicting application (January 30, 2006). "A terminal disclaimer must be required in the later-filed application before the ODP rejection can be withdrawn". See MPEP 804- I.B.1.

Claim Rejections - 35 USC § 102

4. Claims 1-7 and 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda (US 6,413,373) as applied to the rejection to claims 1-4 and 7-9 set forth in the last office action and further discussed below.

Claims 1-4: See last office action and the discussion herein. Applicant argued that the calculation of $\Delta Vp/\Delta \log Rp$ value by the Examiner is incorrect. The Examiner apologizes for having not made it clear to Applicant.

Applicant argued that Matsuda is silent as to the ΔVp value. This is incorrect. In claim 6, Matsuda states a change in volume from 1 cc/g to 2 cc/g for a range of peak diameter of 200 to 2000 A^o which is 20 nm to 200 nm, and thus is equivalent to a peak radius of 10 nm to 100 nm. The difference between two Vp values, $\Delta Vp = Vp2-Vp1$

[1] MPEP 823 does not discuss double patenting rejection issue, rather it concerns Unity of Invention Under

which is equal to (2.0 cc/g - 1.0 cc/g) for a peak pore radius from 10 to 100nm. And thus the result of ΔVp is 1 cc/g which happens to be the same number as Vp1, which may have confused Applicant to think that the Examiner miscalculated the ΔVp value. The ΔlogRp is (log 100 - log 10) = 1. Thus the same value of ΔVp/ΔlogRp results which is 1000 mm^3 at a peak diameter of 200 nm which is equivalent to a peak radius of 100 nm.

Claim 5: See Table 2 (col. 14) where the bulk specific gravity is reported as from 0.066 to 0.082 g/ml which is equivalent to 66 to 82 g/l. Bulk specific gravity is a density relative to water wherein water density is 1 g/ml.

Claim 6: This is a product-by-process claim, thus the process limitation does not amount to a patentable weight. The burden is on Applicant to show that the baking process produces a product different from the product taught by Matsuda.

Claims 13-15: Matsuda teaches the use of silica as a mating agent in paper or absorbent filler. See col. 1, lines 9-12.

5. Claims 7 and 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by the JP Patent No. 06-040714 ("JP'714) as applied to the rejection to claims 7-9 set forth in the last office action and further discussed below.

Claims 7, 9 and 10: As stated in the last office action, silica is obtained by heating silica particles at 240C for up to an hour. See paragraphs [0019]-[0021]. The starting silica exhibits an oil absorption of more than 400 ml/100 g (paragraph [0008].

Claim 11: See paragraph [0011].

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the PCT.

Claim 12: See paragraph [0023].

Claims 13-15: The use of silica in agricultural chemicals and as an absorbent material (i.e. mating agent) is suggested at paragraph [0001].

Claim Rejections - 35 USC § 103

6. Claims 7 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/17901 ("WO '901").

As stated in the last office action, WO'901 teaches a method of obtaining silica particles by heating silica up to 550C for 10 hours. See Examples 2 and 4. There is no report as to the oil absorption of the starting silica; however, one of ordinary skill in the art would have found it obvious to utilize the silica having the oil absorption as claimed depending on the desired result. The process taught by WO'901 appears to be applicable for all silica of any oil absorption. With the high oil absorption, it would have been obvious to apply the silica as an absorbent filler.

7. Claims 7 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecoraro et al (US 6,107,236).

As stated in the last office action, Pecoraro teaches a method of obtaining silica particles by heating silica up to 400C for one hour. See col. 6, lines 10-16. There is no report as to the oil absorption of the starting silica; however, one of ordinary skill in the art would have found it obvious to utilize the silica having various oil absorption including the claimed oil absorption depending on the desired result. The process taught by Pecoraro appears to be applicable for silicas of any oil absorption. Claim 11:

Mineral acid is taught at col. 3, lines 50-55. Claim 12: pH adjustment is taught at col. 3, lines 40-44.

Response to Arguments

8. In the JP714, the peak radius is less than 10 nm as argued by Applicant. Thus the rejection to clams 1-4 based on the JP'714 is hereby withdrawn.

9. Similarly, the rejection to claims 1-4 based on the Pecorino reference is hereby withdrawn.

10. In the WO'901 reference, the Examiner actually misapplied the formula for ΔlogRp, but not the ΔVp value. ΔlogRp should be (log 2 - log 1) (because Rp1 is 10 A^{o} and Rp2 is 20 A^{o}, which in nm unit Rp1 is 1 nm and Rp2 is 2 nm), not [log (2-1)] as shown in the last office action. And (log 2 - log 1) = log (2/1) which is equal to log 2 and is 0.301. Thus the result of ΔVp/ΔlogRp in the WO'901 should have been (364/0.301) which is approximately 1209 mm^3/nm.g for a peak pore diameter of 18 nm (Table 1, column 6) which is equivalent to a peak radius of 9 nm. However, a peak radius of 9 nm is below the newly claimed value. In addition, the graphical drawings 1B, 2B, 3B, 4B and 5B all show a peak pore radius of less than 10 nm. Thus, rejection to claims 1-4 based on the WO'901 reference is hereby withdrawn.

Election/Restrictions

11. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6 and 13-15, drawn to silica particles and their use.

Group II, claim(s) , 9 and 10-12, drawn to method of making and using silica particles.

12. The inventions listed as Groups I do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: As shown in the rejections above, groups I and II do not share the same special technical feature. The peak pore radius at maximum of $\Delta Vp/\Delta logRp$ of group I invention is not present in Group II and the baking process of group II is not present of Group I. The common feature, i.e. the oil absorption, is not an inventive feature as all references JP'714 and Matsuda references teach this feature.

In addition, the claims as amended require application of different references on different sets of claims. Thus, there exists a burden on the examiner to have to search and examine all claims. **Applicant is required to either elect one of the inventions or amend the process claims to include all limitations of the product claims.**

13. The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. Thi Le/
H. (Holly) T. Le
Primary Examiner
Art Unit 1794

March 30, 2008